Vitamin C effective for melasma...

Sixteen women with idiopathic melasma were randomly assigned to apply 5% ascorbic acid cream on one side of the face and 4% hydroquinone cream on the other side, each night for 16 weeks. Sunscreen was applied daily throughout the study. The best subjective improvement was reported on the hydroquinone side, with 93% good and excellent results, compared with 62.5% on the ascorbic acid side (p < 0.05). However, colorimetric measures showed no significant difference between treatments. Side effects (mainly skin irritation) occurred in 68.7% of patients on the side where hydroquinone was applied and in 6.2% of cases on the side treated with ascorbic acid.

Comment: Melasma is a dark pigmentation of the skin that occurs on sun-exposed areas of the face. It is particularly common in pregnant women and in women taking oral contraceptives or hormone-replacement therapy during menopause. Hydroquinone is a bleaching agent that is effective in some cases. Tretinoin cream, and in some cases topical steroids or chemical peels, are also used. The results of the present study suggest that topical ascorbic acid cream is a safe and effective alternative to conventional treatments. Although ascorbic acid cream was somewhat less effective than hydroquinone, it was better tolerated, and may therefore be considered as a first line therapy for patients wishing to try the safest treatments first.


...and vitamin C lowers uric acid levels...

One hundred eighty-four nonsmoking volunteers (mean age, 50.8 years) received 1,000 mg of ascorbic acid twice a day (with the morning and evening meals) for six days, and no ascorbic acid (control period) for another six days, in random order. A low-oxalate diet was consumed throughout the study. On day six of each treatment period, the subjects received 136 mg of oxalate two hours before breakfast. Of the 48 participants, 19 (12 stone formers, 7 non-stone formers) were identified as responders, defined by an increase in 24-hour total oxalate excretion of greater than 10% after ascorbic acid treatment than after the control period. Responders had a greater 24-hour Tiselius Risk Index (a measure of calcium oxalate saturation) after ascorbic acid supplementation than after the control period (mean, 1.10 vs. 0.76), because of a 31% increase in the percentage of oxalate absorbed (10.5% vs. 8.0%) and a 39% increase in endogenous oxalate synthesis. The authors concluded that supplementation with 1,000 mg of ascorbic acid twice a day increased urinary oxalate excretion and the Tiselius risk index for calcium oxalate kidney stones in 40% of participants, both stone formers and non-stone formers.

Comment: Opponents of nutritional therapy have long claimed that vitamin C supplementation can cause kidney stones, even though there is virtually no evidence supporting that belief (see Arch Intern Med 1998;158:2187-2191). In fact, a large epidemiological study showed that the risk of kidney stone formation was 22% lower in men who consumed 1,500 mg/day or more of vitamin C, compared with the risk in men who consumed less than 250 mg/day. Although high-dose vitamin C may induce a small increase in urinary uric acid excretion in some people, and a larger increase in a very small proportion of the population, other effects of the vitamin might be expected to help prevent kidney stones. For example, increasing urinary ascorbic acid excretion may cause a small increase in urine acidity, which could reduce calcium oxalate precipitation. Vitamin C in the urine also binds calcium, thereby reducing the formation of calcium oxalate crystals.

While the new study appears to demonstrate that vitamin C increases kidney stone risk, its experimental design does not mimic real-life conditions. The participants in this study were given a fairly large amount of oxalate on an empty stomach, two hours before breakfast. Under normal circumstances, oxalate is a constituent of a meal, and the calcium present in that meal would bind a proportion of ingested oxalate and prevent it from being absorbed. Vitamin C may increase urinary oxalate in people dosed with pure...
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